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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,225	11/20/2001	Tony F. Rodriguez	P0490	4167

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DIGIMARC CORPORATION
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EXAMINER

O'STEEN, DAVID R

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/002,225	RODRIGUEZ, TONY F.	
	Examiner	Art Unit	
	David R. O'Steen	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Note to Applicant

1. Art Units 2611, 2614 and 2617 have changed to 2623. Please make all future correspondence indicate the new designation 2623.

Response to Applicant's Election Remarks

2. In Applicant's remarks dated 6-22-06, Applicant elects species I, claims 1-4 for examination and traverses the species restriction. In view of the applicant remarks (see page 5) for requesting reconsideration that species 2, 3, and 4 to be examined together with species I, the examiner found it persuasive; therefore elected species I, II, III, and IV will be examined. Species V (claim 8) is withdrawn from consideration and will be allowed if generic independent claim 6 is allowed.

Response to Arguments

3. Applicant's arguments filed March 24, 2006 have been fully considered but they are not persuasive. On page 1 of applicant's remarks, the Applicant correctly states that the examiner uses US patent number 6,272,634 granted to Tewfik to reject Claims 1 and 3. In paragraphs 6 through 8, the applicant states that "layered architecture" limitation recited in Claims 1 and 3 is not met by the language cited by the examiner (col. 1, lines 38-43). More specifically, the applicant states that the limitation "layered architecture" cited as an example by the examiner his rejection. The applicant further

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explains in paragraphs 7 and 8 that the examiner construes the limitation "layered architecture" in too broad a sense and does not give the limitation the meaning imparted to it by the specification.

The examiner respectfully disagrees. According to the specification filed November 20, 2001, the applicant states on page 2, lines 6-8 that "a similar approach, of providing watermark functionality as an additional component of known layered architectures, can likewise permit watermark-based communication channels to be employed in existing Ethernet networks." The applicant also states, on page 3, lines 3-8, that "layered architectures are used in a variety of contexts. The lowest layer is commonly customized to the particular hardware being used. Higher layers are progressively more independent of the hardware-offering hardware independent interface for interacting with the system. By such approaches, the software (and content) can more easily be used on a variety of different platforms, since the platform differences are masked by the layered architecture." This characterization describes the Internet as well. The Internet is a layered architecture. The lowest layer is a physical layer that is network specific and capable of two way digital communications. On top of the physical layer is the IP, TCP or UDP, and application layers (HTTP). By separating the application layers from the physical layer, the Internet achieves the "hardware independent interface" to which the applicant refers on page 3, lines 5-6. Furthermore, on page 3, lines 14-15, the applicant mentions the protocols IP (Internet Protocol) and UDP (User Datagram Protocol), both protocols used extensively on the

Internet (in fact, some version or another of IP is used to define the packets of data that are passed around on the Internet).

On pages 5, 6, and 7, paragraphs 9 and 10, 1-8, and 1 of the Applicant's remarks, the applicant states that "the Office has not met its burden of setting forth a convincing rationale as to why an artisan would modify and combine the references in the manner asserted." The applicant supports his claim by making two points. First, the applicant argues on the second paragraph of page 6 that Tewfik is does not come from the field of interactive multimedia distribution. Second, the applicant states that Office supplied an incorrect rationale when combining Tewfik and Zenith. The applicant maintains that no problem would be recognized by an artisan in Tewfik and furthermore, citing In Re Kotzab, states that "Particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed".

With respect to the two points cited above, the examiner disagrees. First, Tewfik is in the field of interactive multimedia distribution. In the background section, in column 1, lines 38-45, Tewfik states that his invention deals with embedding information in audio, video, and images (in other words, multimedia) for distribution over the Internet. Such networks as the Internet (or world wide web, cited in line 38) are inherently interactive. Second, the examiner respectfully asserts that, to a person ordinarily skilled in the art at the time of invention to combine Tewfik with Zenith (US 6,519,771). The invention disclosed by Tewfik relies on a variety of protocols to function and be distributed. Such protocols include the Internet protocols (such as IP, UDP/TCP, and

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application protocols such as HTTP for the web). In the field of analog television, Tewfik cites using the widely used US standard NTSC (col. 5, lines 60-62). Tewfik relies on these widely used and adopted protocols to make it possible to apply this technology to as wide a variety of uses as possible, as well as to attract as many users as possible. To one skilled in the art at the time of invention, it would be obvious to extend Tewfik's invention to meet the specifications of the Advanced Television Enhancement Forum (ATVEF) so as to maintain and expand a user base. As Zenith states on column 5, lines 8-13, this standard can be used combine television and web pages and builds upon the hypertext transfer markup language (HTML), a language standard for implementing web pages. This open standard is especially pertinent to Tewfik because he cites both standard television and internet-based multimedia as targets for implementation of his invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Tewfik (US 6,272,634). As regards Claim 1, Tewfik discloses an interactive video

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origination system employing a layered architecture (such as the internet) (col. 1, lines 38-43), such system enhancing video content through associated computer data (such as authorial data) (col. 3, lines 34-36), one of the said layers including a watermark encoder for in-band watermarking of the video content with said associated computer data (fig. 4.28).

As regards Claim 3, Tewfik discloses an interactive video consumer system employing a layered architecture (such as the internet) (col. 1, lines 38-43), such system providing enhanced consumer experience through computer data associated with video content (such as authorial data) (col. 3, lines 34-36), one of the said layers including a watermark decoder for decoding said computer data from in-band video content (col. 1, lines 56-58).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tewfik (US 6,272,634) in view of Zenith (US 6,519,771).

As regards Claims 2 and 4, Tewfik discloses the system of Claims 1 and 3, but does not disclose that it is ATVEF compliant. Zenith discloses an ATVEF compliant system (col. 5, lines 8-13).

Tewfik and Zenith are analogous art because they both come from the same field of endeavor, namely the field of interactive multimedia distribution.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to add the ATVEF compliance of Zenith, an analogous art to the watermarking system of Tewfik so that it is a part of a widely supported, non-proprietary standard.

Claims 5-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (WO 02/07425) in view of Steinhorn (1999).

As regards Claim 5, Chen discloses an interactive video origination system wherein a watermark encoder for in-band watermarking of the video content (page 7, line 33, and page 8, lines 1-6) with said associated computer data is included in said physical layer (IE modulator, fig. 2.110, which combines data signals with television signals and broadcasts them out over a cable system, pages 18, lines 25-33 and page 19, lines 1-6. The embedding of data takes place at signal level, i.e. the physical layer). Chen, however, does not disclose a layered architecture comprising at least four layers, a lowest layer of the architecture being customized to particular hardware being used, and higher layers being progressively more independent of the hardware so as to offer hardware-independent interfaces for interacting with the system, the architecture including at least a physical layer, a network layer, and an application layer, such system enhancing video content through associated computer data. Steinhorn discloses a layered architecture comprising at least four layers, a lowest layer of the architecture being customized to particular hardware being used, and higher layers

being progressively more independent of the hardware so as to offer hardware-independent interfaces for interacting with the system, the architecture including at least a physical layer, a network layer, and an application layer (such as the delivery protocol specification of ATVEF, page 3, lines 30-35 and page 4, lines 1-18, and layer figure, page 3), such system enhancing video content through associated computer data (page 1, lines 23-26).

At the time of invention, it would have been obvious to one skilled in the art to add ATVEF compatibility as done in Steinhorn, an analogous art, to the interactive video origination system of Chen to make Chen's system compatible with a widely embraced industry standard.

As regards Claim 6, Chen discloses an interactive video consumer system wherein a watermark decoder for in-band watermarking of the video content (page 7, line 33, and page 8, lines 1-6) is included in said physical layer, or an intervening higher layer, but not so high as to be included in said application layer (IE demodulator, fig. 3.120A, specifically Information Extractor, fig. 3.290, decodes data signals broadcast with television signals received from the cable system, pages 37, lines 21-33 and page 38, lines 1-9. The embedding of data takes place at signal level, i.e. the physical layer). Chen, however, does not disclose a layered architecture comprising at least four layers, a lowest layer of the architecture being customized to particular hardware being used, and higher layers being progressively more independent of the hardware so as to offer hardware-independent interfaces for interacting with the system, the architecture including at least a physical layer, a network layer, and an application layer, such

system enhancing video content through associated computer data. Steinhorn discloses a layered architecture comprising at least four layers, a lowest layer of the architecture being customized to particular hardware being used, and higher layers being progressively more independent of the hardware so as to offer hardware-independent interfaces for interacting with the system, the architecture including at least a physical layer, a network layer, and an application layer (such as the delivery protocol specification of ATVEF, page 3, lines 30-35 and page 4, lines 1-18, and layer figure, page 3), such system enhancing video content through associated computer data (page 1, lines 23-26).

At the time of invention, it would have been obvious to one skilled in the art to add ATVEF compatibility as done in Steinhorn, an analogous art, to the interactive video system of Chen to make Chen's system compatible with a widely embraced industry standard.

As regards Claim 7, Chen discloses that said watermark decoder is provided in a link layer (IE demodulator, fig. 3.120A, specifically Information Extractor, fig. 3.290, decodes data signals broadcast with television signals received from the cable system, pages 37, lines 21-33 and page 38, lines 1-9. The embedding of data takes place at signal level, i.e. the physical layer).

As regards Claim 9, Steinhorn discloses a decoder for obtaining computer data transmitted with the video by multicast IP transmission (page 1, lines 11-13).

At the time of the invention, it would have been obvious to one skilled in the art to combine the multicast IP decoder of Steinhorn, an analogous art, with the interactive

video system of Chen to allow Chen's system to advantage of another well-known method of receiving data.

As regards Claim 10, Chen discloses that the watermark decoder is provided in a consumer set-top box (watermark decoding is done on the user premises and sends the TV signal to a television, page 17, lines 29-33 and page 18, lines 1-15).

As regards Claim 11, Chen discloses a video system wherein a watermark processor is included in said physical layer, so that said application layer can make use of watermark functionality without regard to the particular physical implementation of said watermark processor (IE demodulator, fig. 3.120A, specifically Information Extractor, fig. 3.290, decodes data signals broadcast with television signals received from the cable system, pages 37, lines 21-33 and page 38, lines 1-9. The embedding of data takes place at signal level, i.e. the physical layer). Chen does not disclose employing a layered architecture comprising at least four layers, a lowest layer of the architecture being customized to particular hardware being used, and higher layers being progressively more independent of the hardware so as to offer hardware-independent interfaces for interacting with the system, the architecture including at least a physical layer, a link layer, a network layer and an application layer. Steinhorn discloses employing a layered architecture comprising at least four layers, a lowest layer of the architecture being customized to particular hardware being used, and higher layers being progressively more independent of the hardware so as to offer hardware-independent interfaces for interacting with the system, the architecture including at least a physical layer, a link layer, a network layer and an application layer (such as the

delivery protocol specification of ATVEF, page 3, lines 30-35 and page 4, lines 1-18, and layer figure, page 3).

At the time of invention, it would have been obvious to one skilled in the art to add ATVEF compatibility as done in Steinhorn, an analogous art, to the interactive video system of Chen to make Chen's system compatible with a widely embraced industry standard.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David R. O'Steen whose telephone number is 571-272-7931. The examiner can normally be reached on 8:30 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on 571-272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRO


HAITRAN
PRIMARY EXAMINER